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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,016	03/31/2004	LeeLing Tan	STL10348	5546

7590 02/16/2006
Derek J. Berger, Seagate Technology LLC
Intellectual Property - COL2LGL
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EXAMINER

DAVIS, OCTAVIA L

ART UNIT	PAPER NUMBER
2855	

DATE MAILED: 02/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/814,016

Applicant(s)

TAN ET AL.

Examiner

Octavia Davis

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/30/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 9, 11 – 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Funches et al (5,305, 160).

Regarding claims 1, 11 and 20, Funches et al disclose a method for compensating for variations in torque capability of voice coil motors comprising a motor(s) 20, 84 that accelerates a control object(s) 40, 70 (See Col. 3, lines 18 – 27 and Col. 7, lines 38 – 53) and a means 134 for measuring a plurality of distances successively traveled by the control object 70 during said acceleration to compensate for variation in motor torque (See Col. 9, lines 54 – 68 and Col. 10, lines 1 – 5 and 49 - 58).

Regarding claims 2, 12 and 13, a constant control input is applied to the motor accelerate the control object 70 at a constant rate of acceleration less than a maximum rate of acceleration that can be obtained by the motor 20 (See Col. 8, lines 53 – 63 and Col. 11, lines 44 – 63).

Regarding claims 3 and 14, uniform operation of the actuator(s) 40, 70 is provided by controlling the current in the actuator coil (See Col. 9, lines 58 – 66).

Regarding claims 4, 5, 15 and 16, measured distances A – J are combined to obtain a measured acceleration of the control object 40 (See Col. 9, lines 54 – 58, Col. 10, lines 15 – 31 and Col. 11, lines 1 – 41).

Regarding claims 6 and 17, the measured acceleration is combined with a nominal acceleration of the control object to determine a compensation value K_{out} (See Col. 10, lines 40 - 58 and Col. 11, lines 1 - 19).

Regarding claims 7 and 8, the compensation value K_{out} of the measuring step comprises a gain adjustment factor and the control object 40, 70 is accelerated using the gain adjustment factor (See Col. 11, lines 20 - 43 and Col. 12, lines 6 - 19).

Regarding claims 9 and 18, the control object comprises an actuator 40, 70 of a data storage device that supports a data transducer head(s) 30, 78A, 78B adjacent a recording medium 10 (See Col. 7, lines 38 - 64).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funches et al (5,305, 160) in view of Kadlec et al (5,684,650).

Regarding claims 10 and 19, Funches et al disclose all of the limitations of these claims except for performing a coarse adjustment routine to arrive at a first compensation value that compensates for said variations in motor torque at a first resolution, and then performing a fine adjustment routine using the first compensation value to arrive at a final compensation value at a second resolution greater than the first resolution. However, Kadlec et al disclose a digital servo

Art Unit: 2855

control system for use in disk drives that provides adaptive compensation for a variety of tracking and seek problems found in disk drives comprising sample integrity tester portions constituting a coarse static window calculator and tester 2420 and a fine dynamic window calculator and tester 2430 that filter out measurements that contain large levels of noise (See Kadlec et al, Col. 39, lines 7 – 39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Funches et al according to the teachings of Kadlec et al for the purpose of, enabling a minimal area of a disk to be subjected to a servo positional sensor information by preventing clearly erroneous measurement from contaminating loop calculations (See Kadlec et al, Col. 39, lines 13 – 15).

Response to Arguments

5. Applicant's arguments with respect to these claims have been considered but are moot in view of the new grounds of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Clare et al (5,898,286) disclose a digital servo control system for a data recording disk file with improved saturation modeling.

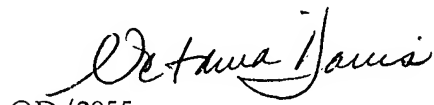
Codilian et al (6,369,972) disclose a temperature monitoring method of a disk drive voice coil motor from a traveled distance.

Art Unit: 2855

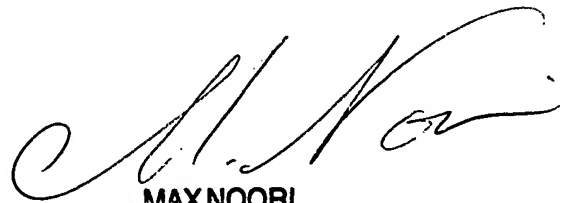
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Octavia Davis whose telephone number is 571-272-2176. The examiner can normally be reached on Mon through Fri from 9 to 5. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


OD/2855

2/14/06


MAX NOORI
PRIMARY EXAMINER